MISB MOTION IMAGERY STANDARDS BOARD	**MISB ST 0107.2**
STANDARD **Bit and Byte Order for Metadata in Motion Imagery Files and Streams**	**27 February 2014**

1 Scope

This Standard defines the bit and byte order for all implementations of KLV metadata in files and streams. It applies retroactively to all documents approved by the Motion Imagery Standards Board (MISB). This Standard is only applicable to KLV metadata generated within a system.

The issue of bit and byte order is only applicable to the application and storage level where systems need to interact. It is not the intention of this Standard to define bit and byte order for communications, since these systems may change order many times along a transmission path. It is assumed that communications systems will deliver a data stream or file in the same bit or byte order in which it was received.

2 References

N/A

3 Modifications and Changes

Revision	Date	Summary of Changes
0107.2	02/27/2014	• Added EARS format for requirements

4 Introduction

To promote interoperability among motion imagery systems and to reduce the opportunity for misunderstandings or malfunctions, it is essential that all KLV metadata in motion imagery files and streams be represented using the same bit and byte order convention. While some modern systems may easily adapt themselves to different bit and byte order conventions, this Standard is put forth to reduce ambiguity and establish a single frame of reference for all generations of systems.

The term "big-endian" is used in this Standard to signify the order in which the "big end" (most significant bit or byte value in the sequence) is stored first. It is synonymous with the terms most significant bit (msb) first, or most significant byte (MSB) first.

5 Bit and Byte Order

Requirement	
ST 0107.2-01	Bit order shall be big-endian or msb.
ST 0107.2-02	Byte order shall be big-endian or MSB.